ELSEVIER

Volume 296 Numbers 1–2, 10 January 2000

Journal of ALLOYS AND COMPOUNDS

www.elsevier.com/locate/jallcom

Contents

Editorial ix

Letters

Phase relation in the system Gd–Co–B L1
Y. Chen (Beijing, PR China), J. Liang (Beijing and Shengyang, PR China), X. Chen, Q. Liu (Beijing, PR China)

New ternary compounds in the Lu-{Ru, Rh}-{Si, Ge} systems L4
A.V. Morozkin, I.A. Sviridov (Moscow, Russia)

New ternary CeScSi-type $RTi_{0.85}Mo_{0.15}Ge$ compounds (R=Gd–Tm, Lu) L6
A.V. Morozkin, I.A. Sviridov (Moscow, Russia)

On the new ternary gadolinium silver aluminide GdAgAl L8
J. Heimann, M. Kulpa (Katowice, Poland)

Physics

The change of crystal and exchange parameters in the vicinity of T_N in Cr_2O_3 1
M. Baster (Cracow, Poland), F. Bourée (Gif-sur-Yvette, France), A. Kowalska, Z. Latacz (Cracow, Poland)

Electronic theory of phase stability in substitutional alloys: application to the Au–Ni system 6
C. Colinet (Saint Martin d'Hères, France), A. Pasturel (Grenoble, France)

The hydriding behaviour of $U(Fe_{1-x}Ni_x)Al$ system ($0 \leq x \leq 0.75$) and magnetic studies on $U(Fe_{1-x}Ni_x)AlH_{0.8}$ 20
P. Raj, A. Sathyamoorthy, K. Shashikala, N. Harish Kumar, C.R. Venkateswara Rao, S.K. Malik (Mumbai, India)

X-ray diffraction studies of $AuCu_3$-type neptunium compounds under pressure 27
Y. Méresse, S. Heathman, T. Le Bihan, J. Rebizant, M.S.S. Brooks (Karlsruhe, Germany), R. Ahuja (Uppsala, Sweden)

Crystal structures and giant magnetoresistance of fluoride $La_{2/3}Ca_{1/3}MnO_3$ compounds 33
Y. Guo, K. Tao, Y. Liu, H. Zhou (Beijing, People's Republic of China), R. Wäppling (Uppsala, Sweden)

Magnetic phase transitions in $Nd_{1-x}Pr_xFe_{11-y}Si_yTi$ ($y=0.5$, 1.0) compounds 39
W. Liu, X.K. Sun, Z.D. Zhang, Q.F. Xiao (Shenyang, PR China), E. Brück, F.R. de Boer (Amsterdam, The Netherlands)

Chemistry

New La326 type compounds substituted with sodium and potassium 46
F. Tao (Chengdu and Beijing, People's Republic of China), X.J. Zhou, G.C. Che (Beijing, People's Republic of China), J.H. Xu (Chongqing, People's Republic of China), S.F. Zhu, B.J. Zhao (Chengdu, People's Republic of China)

Crystal growth and X-ray structure determination of $Rb_3Bi_2I_9$ 53
V.I. Sidey, Yu.V. Voroshilov, S.V. Kun, E.Yu. Peresh (Uzhgorod, Ukraine)

Lattice trends in $Ti_5Si_3Z_x$ (Z=B,C,N,O and $0<x<1$) 59
A.J. Thom (Ames, IA, USA), V.G. Young (Minneapolis, NM, USA), M. Akinc (Ames, IA, USA)

Preparation and electrochemical properties of some $(Sc_{1-x}Ti_x)Ni$ alloys 67
V.P. Balema, A.O. Pecharsky (Ames, IA, USA), T.W. Ellis (Willow Grove, PA, USA), V.K. Pecharsky (Ames, IA, USA)

High pressure synthesis of molybdenum nitride MoN 72
X. Zhao (Regensburg, Germany and Shanghai, People's Republic of China), K.-J. Range (Regensburg, Germany)

The crystal structure of lewisite, $(Ca,Sb^{3+},Fe^{3+},Al,Na,Mn,\square)_2(Sb^{5+},Ti)_2O_6(OH)$ 75
N.V. Zubkova, D.Yu. Pushcharovsky (Moscow, Russia), D. Atencio (Sao Paulo, SP Brazil), A.V. Arakcheeva (Moscow, Russia), P.A. Matioli (Porto Alegre, RS, Brazil)

Structural disorder and thermal conductivity of the semiconducting clathrate $Sr_8Ga_{16}Ge_{30}$ 80
B.C. Chakoumakos, B.C. Sales, D.G. Mandrus (Oak Ridge, TN, USA), G.S. Nolas (Dallas, TX, USA)

Elsevier Science S.A.

Phase structures and electrochemical properties of $V_3TiNi_{0.56}Hf_{0.24}Co_x$ alloys 87
Q.A. Zhang, Y.Q. Lei, X.G. Yang, Y.L. Du, Q.D. Wang (Hangzhou, People's Republic of China)

Neutron diffraction study of $Sr_2Mn_2O_5$ 92
T. Mori (Toyohashi, Japan), K. Inoue (Otsu, Japan), N. Kamegashira, Y. Yamaguchi, K. Ohoyama (Sendai, Japan)

Metallurgy

Systematical investigation of the Y–Fe–Al ternary system. Part 1. Single crystal studies of the YFe_xAl_{12-x} compound 98
P. Salamakha, O. Sologub, J.C. Waerenborgh, A.P. Gonçalves (Sacavém, Portugal), M. Godinho (Campo Grande, Portugal), M. Almeida (Sacavém, Portugal)

The Hf–Au system 103
M. Lomello-Tafin (Annecy-Le-Vieux, France and Lausanne, Switzerland), P. Galez (Annecy-Le-Vieux, France), P. Feschotte (Lausanne, Switzerland), J.L. Jorda (Annecy-Le-Vieux, France)

Partial and integral enthalpy of molten Ag–Al–Cu alloys 112
H. Flandorfer, E. Hayer (Wien, Austria)

Thermodynamics of the [Ir–In] system 119
P. Anres (Marseille, France), P. Fossati (Genova, Italy), K. Richter (Vienna, Austria), M. Gambino, M. Gaune-Escard, J.-P. Bros (Marseille, France)

Liquid–solid equilibria in the quasicrystalline regions of the Al–Pd–Mn phase diagram 128
H. Klein, M. Durand-Charre, M. Audier (Saint Martin d'Heres, France)

Materials Science

The effects of long term annealing at 1000°C for 24 h on the microstructure and magnetic properties of Pr–Fe–B/Nd–Fe–B magnets based on $Nd_{16}Fe_{76}B_8$ and $Pr_{16}Fe_{76}B_8$ 138
M.R. Corfield, A.J. Williams, I.R. Harris (Birmingham, UK)

A wet ball milling treatment of Zr-based AB_2 alloys as negative electrode materials 148
B.H. Liu, Z.P. Li, A. Okutsu, S. Suda (Tokyo, Japan)

Magnetic properties of cobalt ferrite/SiO_2 nanocomposite 152
S.R. Mekala, J. Ding (Singapore, Singapore)

Microstructure and mechanical properties of nanocrystalline Al–Ti alloys consolidated by plasma activated sintering 157
J.R. Ryu, K.I. Moon, K.S. Lee (Seoul, South Korea)

Calorimetric studies on uranium molybdate 166
S. Dash, K. Jayanthi, Z. Singh, N.D. Dahale, S.C. Parida, V.S. Iyer (Mumbai, India)

Crystal structure and hydride formation of the $DyNi_{5-x}Ga_x$ alloys 170
G.I. Miletić, A. Drašner, Ž. Blažina (Zagreb, Croatia)

Fabrication of nanocrystalline WC and nanocomposite WC–MgO refractory materials at room temperature 175
M. Sherif El-Eskandarany (Cairo, Egypt)

Metastable alloy bulk bodies in the Fe–W system prepared by mechanical alloying and shock compression 183
X. Huang, T. Mashimo (Kumamoto, Japan)

FMR study of crystallization in the amorphous alloy $Co_{65}Fe_4Ni_2Si_{15}B_{14}$ (Metglas 2714A) 191
R.S. de Biasi, M.L.N. Grillo (Rio de Janeiro, Brazil)

Action of chills on soundness and ultimate tensile strength (UTS) of aluminum–quartz particulate composite 193
J. Hemanth (Karnataka, India)

Corrosion and degradation behavior of Zr-based AB_2 alloy electrodes during electrochemical cycling 201
B.H. Liu, Z.P. Li, Y. Matsuyama, R. Kitani, S. Suda (Tokyo, Japan)

Magnetism and transport properties of $Nd_6Fe_{13-x}Al_{1+x}$ crystals 209
Y. Nagata, M. Kamonji, M. Kurihara, S. Yashiro (Tokyo, Japan), H. Samata (Kobe, Japan), S. Abe (Kanagawa, Japan)

The influence of alloying additions and process parameters on the magnetic properties of PrFeB-based bonded magnets 219
R.N. Faria, D.N. Brown, I.R. Harris (Birmingham, UK)

Microstructural and magnetic studies of cast and annealed Nd and PrFeCoBZr alloys and HDDR materials 223
R.N. Faria, B.E. Davies, D.N. Brown, I.R. Harris (Birmingham, UK)

Low temperature region of the ternary Pb–In–Se system 229
B. Daouchi, M.-C. Record (Kenitra, Maroc and Montpellier, France), J.-C. Tedenac (Montpellier, France)

Skolozdra Memorial Section

Thermoelectric properties of ternary transition metal antimonides 235
G. Melnyk (Wien, Austria and Lviv, Ukraine), E. Bauer, P. Rogl (Wien, Austria), R. Skolozdra (Lviv, Ukraine), E. Seidl (Wien, Austria)

Electronic phase diagram of the XTZ (X=Fe, Co, Ni; T=Ti, V, Zr, Nb, Mn; Z=Sn, Sb) semi-Heusler compounds 243
J. Toboła (Kraków, Poland), J. Pierre (Grenoble, France)

Anomalous magnetism and electron paramagnetic resonance spectroscopy of the $ZrNi_{1-x}Cr_xSn$ solid solution 253
Yu.V. Stadnyk, R.V. Skolozdra, B.V. Padlyak, Yu.K. Gorelenko, L.P. Romaka (Lviv, Ukraine), A. Jankowska-Frydel, M. Grinberg (Gdańsk, Poland)

New compounds $R_3Fe_{28}Ta$ (R=Gd, Tb, Y) and their hydrides and carbides 258
R.V. Skolozdra (Lviv, Ukraine), D. Fruchart (Grenoble, France), M. Kalychak (Lviv, Ukraine), M. Bououdina (Grenoble, France)

Crystal structures of $PrAl_xGe_{2-x}$ compounds 265
E.I. Gladyshevskii, N.Z. Nakonechna (L'viv, Ukraine), K. Cenzual (Geneva, Switzerland), R.E. Gladyshevskii (L'viv, Ukraine and Annecy, France), J.-L. Jorda (Geneva, Switzerland)

Magnetic properties, electronic structure and X-ray spectra of RCo_9Si_4 compounds (R=Y, Gd, Tb) 272
R.V. Skolozdra, I.D. Shcherba, O.I. Bodak, G.A. Melnyk, Yu.K. Gorelenko, V.I. Yarovetz, L.O. Dobryanska, V.S. Lobojko (L'viv, Ukraine)

New ternary phases $RCu_{5-x}Cd_x$ (R=Ce, Gd, Tb and Yb) with the $AuBe_5$ structure type 276
V.V. Pavlyuk, A.I. Horechyj, D.G. Kevorkov, G.S. Dmytriv, O.I. Bodak (Lviv, Ukraine), J.J. Koziol, W. Ciesielski, J. Kapuśniak (Częstochowa, Poland)

Crystal structure of the new ternary indide $CePt_2In_2$ and the isostructural compounds RPt_2In_2 (R=La, Pr, Nd) 280
V. Zaremba, Ya. Galadzhun, Ya. Kalychak (Lviv, Ukraine), D. Kaczorowski, J. Stepien-Damm (Wroclaw, Poland)

The Y–Cu–Pd ternary system at 600°C (0–25 at.% Y): a reinvestigation 285
B.Ya. Kotur (Lviv, Ukraine), H. Michor, E. Bauer, G. Hilscher (Wien, Austria)

The ternary Er–Co–Sn system 290
R.V. Skolozdra, Ya.S. Mudryk, L.P. Romaka (Lviv, Ukraine)

Study of exchange and anisotropy parameters versus insertion of H and C in the $RFe_{11.35}Nb_{0.65}$ compounds (R=Ho, Lu) . . . 293
R. Vert, M. Bououdina, D. Fruchart, D. Gignoux, S. Girard (Grenoble, France), Y. Kalychak (Lviv, Ukraine), B. Ouladdiaf (Grenoble, France), R.V. Skolozdra (Lviv, Ukraine)

New $RNiSn_4$ compounds (R=rare earth): crystal structure of new $LuNiSn_4$ type, magnetic and transport properties 303
R.V. Skolozdra, J.S. Mudryk, L.G. Akselrud (Lviv, Ukraine), D. Fruchart, D. Gignoux, J. Pierre (Grenoble, France), L.P. Romaka (Lviv, Ukraine), D. Schmitt (Grenoble, France)

Neutron diffraction studies of Zr-containing intermetallic hydrides with ordered hydrogen sublattice. V. Orthorhombic $Zr_3CoD_{6.9}$ with filled Re_3B-type structure 312
A.B. Riabov (Lviv, Ukraine), V.A. Yartys (Lviv, Ukraine and Kjeller, Norway), H. Fjellvåg (Kjeller and Oslo, Norway), B.C. Hauback (Kjeller, Norway), M.H. Sørby (Kjeller and Oslo, Norway)

Author Index of Volume 296 317

Subject Index of Volume 296 319